Package 'dams'

October 13, 2022

Title Dams in the United States from the National Inventory of Dams (NID)

Description The single largest source of dams in the United States is the National Inventory of Dams (NID) <http://nid.usace.army.mil> from the US Army Corps of Engineers. Entire data from the NID cannot be obtained all at once and NID's website limits extraction of more than a couple of thousand records at a time. Moreover, selected data from the NID's user interface cannot not be saved to a file. In order to make the analysis of this data easier, all the data from NID was extracted manually. Subsequently, the raw data was checked for potential errors and cleaned. This package provides sample cleaned data from the NID and provides functionality to access the entire cleaned NID data.

Version 0.3.0

URL https://github.com/jsta/dams

BugReports http://www.github.com/jsta/dams/issues

Imports crul, fauxpas, janitor, readxl

Suggests ggplot2, maps, mapproj, testthat, knitr, rmarkdown

License GPL (>= 2)

LazyData true

Depends R (>= 2.10)

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Author Gopi Goteti [aut],
Joseph Stachelek [aut, cre]

Maintainer Joseph Stachelek <stachel2@msu.edu>

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R topics documented:

`dams-package` *Dams in the United States from the National Inventory of Dams (NID)*

Description

Data from NID was downloaded from http://nid.usace.army.mil. Subsequently, the raw data was checked for potential errors and cleaned. The dams package provides a subset of NID fields and functionality (`get_nid()`) to access the entire NID dataset.

`get_nid` *Retrieve nid_all from the official NID site*

Description

Retrieve nid_all from the official NID site

Usage

```
get_nid(dest = "NID2019_U.xlsx", overwrite = FALSE)
```

Arguments

`dest`	destination file path
`overwrite`	logical. overwrite.

Value

nid_all entire NID data, all the 74000+ records from http://nid.usace.army.mil/

Examples

```
## Not run:
dams_all <- get_nid()

## End(Not run)
```

`nid_all` *Dams information from the NID database*

Description

dam_name	Dam Name (Alphanumeric) The official name of the dam. No abbreviations unless the abbreviation i
other_dam_name	Other Dam Names (Alphanumeric) Names other than the official name (i.e., reservoir name) of the d
dam_former_name	Dam Former Name (Alphanumeric) Previous reservoir or dam name(s), if changed. Names are separ
state_reg_agency	State or Federal Agency ID (Alphanumeric) The Official State or Agency identification number for th
nidid	NID ID (Alphanumeric) The official NID identification number for the dam, known formerly as the N
numseparatestructures	Number Separate Structures (Number) Number of separate structures associated with this dam projec
otherstructureid	Other Structure ID (Alphanumeric) The identification number (S001, S002, etc.) for the saddle dam c
longitude	Longitude (Number) Longitude at dam centerline as a single value in decimal degrees, NAD83.
latitude	Latitude (Number) Latitude at dam centerline as a single value in decimal degrees, NAD83.
section	Section, Township, Range Location (Alphanumeric) Optional field. The information is in any form th
county	County (Alphanumeric) The name of the county in which the dam is located.
river	River or Stream (Alphanumeric) The River or Stream designation may be entered in one of two ways
city	Nearest Downstream City/Town (Alphanumeric) Name of the nearest downstream city, town, or villa
distance	Distance to Nearest City/Town (Miles, Number) Distance from the dam to the nearest affected downs
owner_name	Owner Name (Alphanumeric) Name(s) of the dam owner. If multiple owners, different owners are se
owner_type	Owner Type (Alphanumeric) Code to indicate the type of owner: F for Federal; S for State; L for Loc
dam_designer	Dam Designer (Alphanumeric) Name of the principal firm(s) or agency accomplishing design of dam
dam_type	Dam Type (Alphanumeric) Codes, in order of importance, to indicate the type of dam: RE for Earth;
core	Core (Alphanumeric) Code to indicate the position, type of watertight member and certainty, Position
foundation	Foundation (Alphanumeric) Code for the material upon which dam is founded, and certainty: Founda
purposes	Purposes (Alphanumeric) Code(s) to indicate the current purpose(s) for which the reservoir is used: I
year_completed	Year Completed (Number) Year (four digits) when the original main dam structure was completed. If
year_modified	Year Modified (Alphanumeric) Year (four digits) when major modifications or rehabilitation of dam c
dam_length	Dam Length (Feet, Number) Length of the dam, in feet, which is defined as the length along the top c
dam_height	Dam Height (Feet, Number) Height of the dam, in feet to the nearest foot , which is defined as the ve
structural_height	Structural Height (Feet, Number) Structural height of the dam, in feet to the nearest foot, which is de
hydraulic_height	Hydraulic Height (Feet, Number) Hydraulic height of the dam, in feet to the nearest foot , which is d
nid_height	NID Height (Feet, Number) Calculated field: Maximum value of dam height, structural height, and h
max_discharge	Maximum Discharge (Cubic Feet/Second, Number) Number of cubic feet per second (cu ft/sec) whic
max_storage	Maximum Storage (Acre-Feet, Number) Maximum storage, in acre-feet, which is defined as the total
normal_storage	Normal Storage (Acre-Feet, Number) Normal storage, in acre-feet, which is defined as the total stora
nid_storage	NID Storage (Acre-Feet, Number) Calculated field: Maximum value of normal storage and maximum
surface_area	Surface Area (Acres, Number) Surface area, in acres, of the impoundment at its normal retention leve
drainage_area	Drainage Area (Square Miles, Number) Drainage area of the dam, in square miles, which is defined a
hazard	Downstream Hazard Potential (Alphanumeric) Code to indicate the potential hazard to the downstrea
enforcementauthority	Emergency Action Plan (Alphanumeric) Code indicating whether this dam has an Emergency Action
dam_name	Date of Last Revision of Emergency Action Plan (Date) Date of the most recent revision of the Emer
inspection_date	Inspection Date (Number) Date of the most recent inspection of the dam prior to the transmittal of th
inspection_frequency	Inspection Frequency (Number) The scheduled frequency interval for periodic inspections, in years.
cong_name	Condition Assessment (Alphanumeric) Assessment that best describes the condition of the dam based
cong_name	Condition Assessment Detail (Alphanumeric) The specific detail that best describes the reason for th

cong_name	Condition Assessment Date (Number) Date of the most recent assessment of the dam prior to the tran
spillway_type	Spillway Type (Alphanumeric) Code that describes the type of spillway: C for Controlled; U for Unc
spillway_width	Spillway Width (Number) The width of the spillway, to the nearest foot, available for discharge when
outlet_gates	Outlet Gates (Alphanumeric) Code(s) that describe the type of (1) spillway and (2) controlled outlet g
volume	Volume of Dam (Cubic yards, Number) Total number of cubic yards occupied by the materials used i
number_of_locks	Number of Locks (Number) Number of existing navigation locks for the project.
length_of_locks	Length of Locks (Feet, Number) Length of the primary navigation lock to the nearest foot.
width_of_locks	Lock Width (Number) Width of the primary navigation lock to the nearest foot.
permittingauthority	Permitting Authority (Alphanumeric) Yes if the state regulatory organization has the authority to revi
inspectionauthority	Inspection Authority (Alphanumeric) Yes if the state regulatory organization has the authority to requ
enforcementauthority	Enforcement Authority (Alphanumeric) Yes if the state regulatory organization has the authority to is
state_reg_dam	State Jurisdictional Dam (Alphanumeric) Yes if this dam meets the state regulatory organization's def
state_reg_dam	State Regulated Dam (Alphanumeric) Calculated field: based on Permitting Authority, Inspection Au
state_reg_agency	State Regulatory Agency (Alphanumeric) Name of the primary state agency with regulatory or appro
fed_funding	Federal Agency Involvement in Funding (Alphanumeric) Code identifying which federal agency was
fed_construction	Federal Agency Involvement in Construction (Alphanumeric) Code identifying which federal agency
fed_regulatory	Federal Agency Involvement in Regulatory (Alphanumeric) Code identifying which federal agency is
fed_inspection	Federal Agency Involvement in Inspection (Alphanumeric) Code identifying which federal agency is
fed_operation	Federal Agency Involvement in Operation (Alphanumeric) Code identifying which federal agency is
fed_owner	Federal Agency Owner (Alphanumeric) Code identifying which federal agency partly or wholly own
fed_regulatory	Federal Agency Involvement – Other (Alphanumeric) Code identifying which federal agency is invol
source_agency	Source Agency (Alphanumeric) Calculated Field: Primary state or federal agency responsible for dat
state	State (Alphanumeric) State where dam is located.
submit_date	Submit Date (Date) Calculated Field: Date data was submitted to the US Army Corps of Engineers fo
url_address	URL Address (Alphanumeric) Web Site for more information on particular dam. This information is
cong_dist	Congressional Representative District (Alphanumeric) Calculated Field: Congressional District wher

References

NID: The National Inventory of Dams Data Dictionary from the United States Army Corps of Engineers, descriptions extracted from https://nid.sec.usace.army.mil/ords/NID_R.downloadFile?InFileName=NID_DataDictionary.pdf in May 2020.

See Also

nid_subset

`nid_subset` *Subset of dams information from the NID database*

Description

Reduced subset of the the NID data excluding fields with more than 5 percent missing data. See the nid_all documentation for a description of each field.

Usage

```
data(nid_subset)
```

Format

Data frame with 32 columns and 91457 rows

See Also

nid_all for a description of each field.

Index